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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,490	11/28/2003	Hitoshi Ishibashi	245455US2	9489
22850	7590	10/03/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			GARCIA JR, RENE	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,490

Applicant(s)

ISHIBASHI ET AL.

Examiner

Rene Garcia, Jr.

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-37 is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 10, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 11-13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/10/04; 02/27/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS: 06/15/04.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 9, 10 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated in view of Nakazato et al. (EP 1 074 894 A2).

Nakazato et al. disclose the following claimed limitations:

*regarding claims 1, 9 and 38, method of determining an acceptance width for an alignment pattern detector/**patch sensor, PS/** that detects an alignment pattern/**PI₂/** in an image forming apparatus (paragraph 0013) (fig. 1; paragraph 0021), comprising:

*deriving a correlation between a line width/**line intervals, n₁ & n₂/** of the alignment pattern/**PI₂/**, a writing density/**design resolution, R/** of the image forming apparatus, and the acceptance width/**size of detect area IR, θ/** of the alignment pattern detector

*determining the acceptance width based on the correlation derived (paragraph 0066) (paragraphs 0065 – 0073; figs. 17-21)

(regarding claim 38, preamble of the claim does not have patentable weight because it does not limit the claim)

*regarding claims 2 and 10, correlation is derived experimentally (paragraph 0066)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura Nakazato et al. (EP 1 074 894 A2) in view of Miyazaki. et al. (US 6,408,156).

Nakazato et al. disclose the claimed limitations except for the following:

*regarding claims 3 and 14, alignment pattern is formed on a medium by superposing a line image of a reference color and a line image of a sample color other than the reference color to make a plurality of lines as one patch, and arranging a plurality of patches in which a relative position between the line images of the two colors is continuously shifted by a predetermined amount

*regarding claims 4 and 15, reference color is black

Miyazaki et al. disclose the following:

*regarding claims 3 and 14, alignment pattern is formed on a medium/**carrier belt**, 12/ by superposing a line image of a reference color and a line image of a sample color other than the reference color to make a plurality of lines as one patch, and arranging a plurality of patches in which a relative position between the line images of the two colors is continuously shifted by a predetermined amount (figs. 5,6a & 6b; col. 7, line 43- col. 8, line 41)

*regarding claims 4 and 15, reference color is black (col. 8, lines 5-9)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize an alignment pattern formed on a medium by superposing a line image of a reference color and a line image of a sample color other than the reference color to make a plurality of lines as one patch, and arranging a plurality of patches in which a relative position between the line images of the two colors is continuously shifted by a predetermined amount; and color is black as taught by Miyazaki et al. into Nakazato et al. for the purposes of detecting of an amount of color shift in the traverse, advance and oblique directions.

Allowable Subject Matter

5. Claims 5-8 and 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 5 is the inclusion of the method step acceptance width is determined from following inequality, $[\text{acceptance width}] > [\text{line width}] / (\alpha [\text{writing density (dpi)}])^\beta$. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

7. The primary reason for the allowance of claim 11 is the inclusion of the method step acceptance width is determined from following inequality, $[\text{acceptance width}] > [\text{line width}] / (\alpha [\text{writing density (dpi)}])^\beta$. It is these steps found in each of the claims, as they are claimed in the

Art Unit: 2853

combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

8. The primary reason for the allowance of claim 13 is the inclusion of the method step line width is equal to or more than a maximum misalignment of the image forming apparatus. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

9. Claims 16-37 are allowed.

10. The following is an examiner's statement of reasons for allowance: claims 16 and 22 include the limitation of $[\text{acceptance width}] > [\text{line width}] / (\alpha [\text{writing density (dpi)}])^\beta$.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

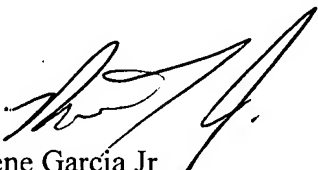
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Allen (US 6,022,154) includes image position error detection and a nozzle mis-registration alert.

Art Unit: 2853

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia, Jr. whose telephone number is (571) 272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rene Garcia Jr
22 September 2005


K. FEGGINS
PRIMARY EXAMINER

9/05